CLAIMS

1. Apparatus for removing solvent residue from a bed of biomass, comprising an extraction vessel for containing biomass, that permits a solvent or a solvent mixture to contact biomass therein to effect extraction; a source of steam, selectively connectable to supply steam to biomass in the extraction vessel; a separator for separating steam, that has contacted biomass in the extraction vessel, and solvent entrained therewith; and a delivery line for steam/solvent selectively interconnectable between the extraction vessel and the separator to permit passage of steam and solvent entrained therewith to the separator.

2. Apparatus according to Claim 1 wherein the source of steam supplies steam at atmospheric pressure.

3. Apparatus according to Claim 1 wherein the source of steam supplies steam at super-atmospheric pressure.

4. Apparatus according to Claim 1 wherein the separator is or includes an adsorbent material for removing solvent entrained with the steam.

5. Apparatus according to Claim 1 wherein the separator is or includes an adsorbent material for removing solvent entrained with the steam; and wherein the adsorbent material is or includes activated carbon.

6. Apparatus according to Claim 1 wherein the separator is or includes an adsorbent material for removing solvent entrained with the steam; and wherein the separator includes an inlet for receiving steam and solv nt from th

extraction vessel and an outlet, the outlet being operatively connected to a condenser to condense the steam after removal of the solvent therefrom by means of the separator.

7. Apparatus according to Claim 1 including a condenser operatively connected in series with and upstream of the separator, whereby the steam is condensed before removal of solvent therefrom by means of the separator.

8. Apparatus according to Claim 1 wherein the extraction vessel is a cylindrical chamber closed at either end and having an inlet at one end and an outlet at its other end, the hollow interior of the chamber being for containing biomass, the inlet being selectively connectable to a source of solvent and a source of steam; and the outlet being selectively connectable as part of a circuit for recovering biomass extract; to a vacuum; or to the said separator.

9. Apparatus according to Claim 1 wherein the extraction vessel is a cylindrical chamber closed at either end and having an inlet at one end and an outlet at its other end, the hollow interior of the chamber being for containing biomass, the inlet being selectively connectable to a source of solvent and a source of steam; and the outlet being selectively connectable as part of a circuit for recovering biomass extract; to a vacuum; or to the said separator; and wherein the extraction vessel is in use vertical, with the inlet at its lower end and the outlet at its upper end.

10. Apparatus according to Claim 1 wherein the extraction vessel contains a packed bed of biomass.

11. Apparatus according to Claim 1 wherein the extraction vessel contains a packed bed of biomass; and wherein the packed bed of biomass occupies substantially the entire cross-section of at least a portion of the extraction vessel.

12. Apparatus according to Claim 1 including a steam condenser jacket around at least part of the extraction vessel.

13. Apparatus according to Claim 1 including thermal insulation for the extraction vessel.

14. A method of removing solvent residues from a bed of biomass, comprising contacting the biomass with steam; passing the steam, in vapour or liquid form, and solvent entrained therewith, to a separator; and separating the steam and the solvent from one another in the separator.

15. A method according to Claim 14 wherein the step of separating includes contacting an adsorbent with the steam/solvent mixture.

16. A method according to Claim 14 including the step of condensing the steam after passing it to the separator.

17. A method according to Claim 14 including the step of condensing the steam before passing it to the separator.

18. A method according to Claim 14 including the step of condensing the steam before passing it to the separator; and wherein the condensing occurs within a vessel containing the biomass.

19. A method according to Claim 14 wherein the step of contacting the biomass with steam occurs in a vessel, and the method includes the step of partially or substantially evacuating the vessel before the steam contacts the biomass.

20. A method according to Claim 14 wherein the step of separating includes contacting an adsorbent with the steam/solvent mixture; and including the step of heating the adsorbent to recover solvent therefrom.

21. A method according to Claim 14 wherein the step of separating includes contacting an adsorbent with the steam/solvent mixture; and including the step of disposing of the adsorbent and the solvent therewith.

22. A method according to Claim 16 or Claim 17, wherein the step of condensing the steam includes recovering heat from the condensate and using the recovered heat to pre-heat water for steam generation.

23. Solvent recovered by the method of any of Claims 14 to 20 or Claim 22.